

# Curriculum

COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE
<b>General Education Requirements: 27 Credit Hours</b>					
ARL 101 (A)	Communication Skills in Arabic I (A)	ENG 200	English II	ISL 100 (A)	Islamic Culture (A)
MTG 100	Math for Life	FWS 205	UAE and GCC Society	STT 100	General Statistics
FWS 100	Academic Skills for Success	FWS305	Technical Communication for the Workplace	FWS 310	Fundamentals of Innovation and Entrepreneurship
<b>Degree Requirements: 44 Credit Hours</b>					
CHE205	General Chemistry I	CHE205L	General Chemistry Lab	BIO 205	General Biology I
BIO 205L	General Biology Lab	HMG 380	Human Anatomy and Physiology I	HMG 381	Human Anatomy and Physiology II
BMS 23110A	Protein Structure & Function	BMS 23110B	Protein Activity & Regulation	BMS 23110C	Enzymology
HSC 210	Introduction to Epidemiology	BMS 302	Professional Practice Skills	PBH 101	Introduction to Public Health
BMS 23010A	Genome Biology	BMS 23010B	Gene Expression	BMS 23010C	Molecular Genetic and Molecular Processes
BMS 23140A	Metabolism and Immune Cell Function				
<b>Major Requirements: 48 Credit Hours</b>					
BMS 34010B	Quantitative Analysis	BMS 34010C	Bioinformatics	BMS 34010A	Biotechniques
HMG 399	Epidemiology and Public Health Genetics	BMS 3470B	Clinical Biochemistry I	BMS 3470B	Clinical Biochemistry I
BMS 34110B	Metabolic Disease I	HMG 35110B	Principles of Medical Genetics	BMS 34210A	Immunology I
HMG 442	Inherited Immunodeficiencies	BMS 34110A	Neurobiology I	HMG 44110A	Inherited Neurological Disorders
BMS 34130A	Cancer Biology I	HMG 44130A	Inherited Cancer genetics	HMG 2201	Introduction to Counselling Theory and Skills
HMG 2301	Medical Genetic Counselling				
<b>Major Research, Placements and Electives: 12 Credit Hours</b>					
HGC 44910A	Human Genetics Research Poster	HGC 44910B	Human Genetics Oral Presentation	HGC 44910C	Human Genetics Research Report
HGC 3401	Human Genetics Placement 1	HGC 4401	Human Genetics Placement 2		



## BACHELOR OF SCIENCE IN MOLECULAR AND MEDICAL GENETICS

## Program Overview

Molecular and Medical Genetics is the field of biology that studies the genetic basis of disease, with the intention of developing improved diagnostics to prevent or treat genetic disorders. ADU's BSc in Molecular and Medical Genetics is a degree, accredited by the UAE Commission for Academic Accreditation (CAA), that combines academic and supervised practice experience to prepare graduates for their future roles as clinical geneticists or research technologists. The program will equip you with the knowledge and technical skills in molecular biology and human genetics needed to succeed in the medical genetics field. The four-year program includes intensive laboratory practical training within the university and two integrated supervised placements with affiliated organizations in the UAE, including VPS Healthcare, Cleveland Clinic Abu Dhabi (CCAD), and regional medical centers.

## Graduates of the program will acquire the following knowledge and skills

You will be able to address issues relating to the application of experimental analysis to solving problems in genetics, follow a career involving genomics and clinical genetics, as well as be prepared for advanced study with an MSc in Molecular and Precision Medicine, which will be offered soon at Abu Dhabi University.

## Student's Testimonial

**Fathima Hasnain Nadeem Hussain** - Current Student

It is an honor being a student of the Molecular and Medical Genetics program under the college of Health Sciences, Abu Dhabi University. The entire faculty including the Dean of the college are accessible, supportive, well equipped, patient and understanding in resolving the key issues and requirements. The serene environment of the University helps me to focus and achieve challenging goals. It has been a right platform to transform myself through gaining knowledge under the expertise of renowned faculty. The syllabus enables me to widen my horizons in various aspects of genetics. I am looking forward in understanding the human genome better in the following years. This fascinates me as an opener to visualize how a small change in the human genome can make us live longer or age slowly. I would highly recommend this program to the future generations who are passionate in learning more about genetics. The day is not far where a thorough understanding of the human genome will enable us in treating many incurable diseases.



## Career Prospects

The BSc in Molecular and Medical Genetics offers you the opportunity to receive training in a discipline growing in demand in today's society. You will acquire the theoretical and practical skills needed to work in both the public and private sectors and develop yourself professionally in both applied and clinical research in genomics, biomedicine, biotechnology, or pharmaceuticals. You will be equipped to work in universities, hospitals, government departments, research institutes, biotechnology, and the pharmaceutical industry. Roles include:

- Molecular Genetics Technologist
- Molecular Laboratory Technologist
- Clinical Laboratory Technician
- Scientific Laboratory Technician
- Cytogeneticist
- Academic Researcher
- Biotechnologist
- Embryologist
- Pharmacologist
- Immunogeneticist
- Medical Sales Representative
- Physician Assistant
- Health Ministry Officer